

SCIENCE & EDUCATION Impact

Benefits From the USDA/Land-Grant Partnership

Downloading the University

Innovative use of information and educational technology.

The brave new world of information technology is just beginning. At first, it was the fax machine, 1-800 numbers, and satellite video. But then along came the desktop computer, and suddenly ways to reach out multiplied beyond imagination: the Internet, e-mail, the World Wide Web, listservs, and modeling software. The U.S. Department of Agriculture (USDA) and Land-Grant universities have been on the leading edge, exploring these technologies both to reach audiences around the world and to bring the world to the most remote rural areas.

Payoff

- **Website wizardry.** The Virtual Orchard, a website created by **Vermont** Extension, provides commercial apple growers with current information. The website had nearly 40,000 visitors in 1997. **Oregon's** Northwest Berry and Grape InfoNet reaches 70 percent of the state's grape growers and winemakers. The interactive Nutrition Analysis Tool developed by **Illinois** lets users analyze specific foods or their daily diet to learn about calorie and fat content. A plant disease website maintained by **Idaho** provides timely, accurate information to growers, field representatives, consultants, and regulatory personnel. **California** Extension provides a website that serves as a forum on logging issues for the timber industry and environmentalists. A forest insect website developed by **Virginia Tech** emphasizes the southern pine beetle and offers two on-line handbooks about infestation control.
- **If you build it, they will come.** To make sure people had access to web pages, **Missouri** Extension established a master volunteer program called the Internet Masters. The volunteers developed websites for nonprofit groups, assisted in public school computer labs, and helped develop a community information network for three counties. In **Vermont**, Extension's Internet training program for local community officials has helped bring 30 communities on-line, and another 50 communities are being connected.

RESEARCH,
EDUCATION, AND
EXTENSION
AT WORK

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■ **Take two aspirin and e-mail me in the morning.**

When a proposed federal standard to protect the health of farm workers got bogged down in legal and technical discussions, **California** Extension established an e-mail discussion group that grew to 350 subscribers. With improved interaction among interested parties, much of the proposed standard became effective in May 1995. Subscribers to three international e-mail groups established by **Oregon** Extension represent 17 countries. The enology group has 160 subscribers, the viticulture group has 184, and the small-fruit group has 297.

■ **Don't bet against computers.** Computer software to assist **Colorado** irrigated corn growers in making weed management decisions suggested strategies that resulted in 15 percent fewer weeds at harvest, a 16 percent reduction in total herbicide load, and a 33 percent reduction in herbicide costs. The computer outperformed the farmers 70 percent of the time. Two software programs developed as part of a **North Central Region** research project help crop growers and consultants make weed management decisions. WeedSOFT lets farmers fill in information from their fields and receive forecasts of potential problems. WeedCast predicts weed emergence in sugarbeet fields. PCDART, a dairy record-keeping program, has helped **Tennessee** dairy producers increase production by an average of 1,000 pounds per cow annually.

■ **Faxes forever.** Through HORTFAX, a fax information system, **Georgia** Extension reaches 400 landscapers, nursery operators, and garden center employees in Atlanta with timely information in response to emergencies such as cold snaps and disease outbreaks. Ag Fax, a similar system, turned out to be more useful and timely than traditional newsletters for agricultural business subscribers in **Iowa's** Clinton County.

■ **Digital dragonflies.** A **Texas A&M** researcher uses a digital scanner to make accurate color images of insects, plants, herbarium specimens, and flowers. One result is a rare collection of dragonfly photos, available on the World Wide Web.

■ **Dialing 1-800.** A toll-free telephone line gives **Maryland** residents access to a Home and Garden Informa-

tion Center with pre-recorded messages available around the clock and trained gardeners on hand from 8 a.m. to 1 p.m. weekdays to answer questions. More than 45,000 calls are logged each year. **Nebraska's** NUFACS is a 24-hour, toll-free information line that lets callers request extension publications via fax or listen to pre-recorded messages on farming, nutrition, home maintenance, water quality, and family life.

■ **Schooling from afar.** Students in the **Midwest** took advantage of the nation's first distance education class on meat animal growth and evaluation. Faculty from **Illinois, Iowa State, Missouri, Purdue, and Wisconsin** participated. The class attracted 150 students from 10 universities in eight states. Students said the course gave them access to expertise and content otherwise unavailable at their schools. Faculty from **California, Cornell, Georgia, Maryland, Virginia Tech,** and the **University of Oregon** are collaborating on a landscape architecture course that includes on-line lectures, tutorials, and interactive multimedia textbooks. Although just beginning, the course should encourage collaborative learning, community building, and distance education on campuses around the nation.

■ **Seeking undergrads.** Eight new **Washington State** learning centers around the state enrolled 3,000 students in 1997. Thirty women completed a 100-hour computer skills course, and one-third found jobs using their knowledge of computers. Twenty transfer students have been admitted to **Washington State** through its Extended Degree Program.



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